

the movable plate 149 reciprocally in the lateral directions (the direction of the arrow X and the direction opposite thereto). A pair of front and rear pins 149a projects from the lower surface of the movable plate 149. The pins 149a are inserted in slots defined in free ends of the gripper arms 146 and the pusher arms 147. Therefore, when the movable plate 149 moves, the gripper arms 146 and the pusher arms 147 are caused to swing. A coil spring 157 is coupled to free ends of the pusher arms 147 for normally urging the gripper arms 146 and the pusher arms 147 in the directions of the arrows S, T (FIG. 4), respectively. Stopper pins 159 project on the movable chassis 143 for engaging the gripper arms 146 for limiting swinging movement (in the directions of the arrows S, T) the gripper arms 146 and the pusher arms 147 to angular positions shown in FIG. 4.

The movable plate 149, the sliders 150, spindle 151, the pinions 152, the racks 153, the worm wheel 155, the motor 156 including the worm 156a, and the stopper pins 159 jointly constitute a movable chassis driving means for moving the movable chassis 143 with respect to the rotatable body 135 and the base 110. The movable chassis driving means moves the movable chassis 143 through the gripper arms 146 and the pusher arms 147 under the resiliency of the coil spring 157. Therefore, a gripper arm mechanism composed of the gripper arms 146 and the pusher arms 147 is given a driving force by the movable chassis driving means.

The movable chassis driving means, the gripper arm mechanism, the movable chassis 143, the rotatable body 135, and a rotatable body driving means composed of the bearing 129, the spindle 130, and the motor 131 for rotating the rotatable body 135 jointly constitute a disc holding/reversing means for gripping, or holding, and reversing a disc together with its storage cartridge 103. The disc holding/reversing means, the base 110, and a base driving means including the motor 113 jointly constitute a disc draw/feed mechanism for successively selecting desired discs stored in the storage rack 104, and hence cartridges 103 and feeding them, one at a time, into the playback position, or for returning the discs, one at a time, from the playback position into the storage rack 104.

As shown in FIG. 3, a plurality of detector levers 161 are disposed alongside of the storage rack 104 in alignment with respective cartridge insertion levels or spaces in the storage rack 104. On a free end of each of the detector levers 161, there is mounted a detector switch (not shown) for detecting whether there is a cartridge by engaging a leading end of the cartridge which is inserted into one of the cartridge insertion levels.

As shown in FIG. 3, an address plate 162 is disposed near the counterweight 117 and extends along the direction in which the discs are arrayed in the storage rack 104, i.e., the direction in which the base 110 is movable.

As shown in FIG. 8, the address plate 162 has an absolute address slit group 162a as an absolute address code group for indicating the disc storage positions in the storage rack 104 in 5 bits, and a positioning slit group 162b as a positioning indicia group for accurately indicating the positions of the discs stored in the disc storage positions, the slit groups 162a, 162b extending parallel to each other in the direction in which the base 110 is movable. As illustrated in FIGS. 3 and 9, a photosensor carrier 163 is mounted on a lefthand end of the base 110 through a bracket 164 by screw 163a, the photosensor carrier 163 being positioned over the address

plate 162. The photosensor carrier 163 can be positionally adjusted in the longitudinal direction of the address plate 162 by loosening the screws 163a. As shown in FIG. 9, the photosensor carrier 163 carries thereon a linear array of seven photocouplers 163b and 163c. Five of the photocouplers 163b as counted from lefthand end (FIG. 9), serve as a reading means for reading the absolute address slit group 162a on the address plate 162, and the remaining two photocouplers 163c serve to detect each slit pair of the positioning slit group 162b. Each of the photocouplers comprise a light-emitting element for emitting a light beam and a light detector element for detecting the light beam. The light-emitting element and the light detector element are disposed one on each side of the address plate 162 across its thickness. FIG. 9 only shows the light-emitting elements, for example, of the photocouplers.

Another photosensor carrier 165 is attached to the bracket 164 below the photosensor carrier 163 by means of screws 165a. The photosensor carrier 165 can be positionally adjusted with respect to the photosensor carrier 163 in the longitudinal direction of the address plate 162. The photosensor carrier 165 carries thereon two photocouplers which cooperate with the two photocouplers 163c in operating as a detecting means for detecting the positioning slit group 162b.

As illustrated in FIG. 8 the positioning slit group 162b for indicating the positions of the discs stored in the disc storage positions, respectively, comprises two slit rows extending parallel to each other in the direction in which the base 110 is movable. The lower edges of the slits of one of the slit rows are horizontally aligned with the upper edges of the adjacent slits of the other slit row. When the central optical axes of the photocouplers of the photosensors 163, 165 for detecting the positioning slit group 162b are substantially aligned with the upper and lower edges of slits, i.e., when the output levels of the two photocouplers of the carrier 163 or 165 simultaneously are equal to each other, it is determined that the base 110 has reached a desired position and the motor 113 is deenergized.

As shown in FIG. 10, when the rotatable body 135 is turned around or reversed together with the spindle 130 for playing both sides of a disk, the free end of the rotatable body 135 tends to be displaced by the deviation Δ due for example to an error in parallelism between the rotatable body 135 and the spindle 130 and dimensional errors of these parts. The photosensor carrier 165 is provided for correcting the deviation Δ . More specifically, for transferring a disc between the storage rack 104 and the rotatable body 135 with the "side A" of the disc facing upwardly (in the direction of the arrow Z), the photosensor 163 is positionally adjusted to establish its relative position with respect to the absolute address slit group 162a and the positioning slit group 162b. Then, in order to compensate for the deviation Δ produced when the disc is reversed for transferring the disc with the "side B" up, the photosensor carrier 165 is positionally adjusted to establish its relative position with respect to the positioning slit group 162b. When the "side A" of the disc is to be played back, the absolute address slit group 162a and the positioning slit group 162b are detected by the photocouplers 163b, 163c of the photosensor carrier 163 only. When the "side B" of the disc is to be played back, the absolute address slit group 162a is detected by the five photocouplers 163b of the photosensor carrier 163, while the positioning slit group 162b is detected by the